

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets

(11)



EP 0 831 669 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
01.12.1999 Bulletin 1999/48

(51) Int Cl. 6: H04Q 7/38, H04L 12/64

(43) Date of publication A2:  
25.03.1998 Bulletin 1998/13

(21) Application number: 97307132.7

(22) Date of filing: 15.09.1997

(84) Designated Contracting States:  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE

• Rikkinen, Karl  
90100 Oulu (FI)

(30) Priority: 20.09.1996 US 716997

(74) Representative: Haws, Helen Louise et al  
Nokia IPR Department  
Nokia (UK) Limited  
Summit Avenue  
Southwood  
Farnborough Hampshire GU14 0NZ (GB)

(71) Applicant: NOKIA MOBILE PHONES LTD.  
02150 Espoo (FI)

(72) Inventors:

• Kokko, Iesmo  
90500 Oulu (FI)

### (54) Load control method and apparatus for CDMA cellular system having circuit and packet switched terminals

(57) A method for operating a cellular communications system of a type that includes a first type of terminal having real-time transmission needs and a second type of terminal having nonreal-time transmission needs. The method includes the steps of (a) determining

at periodic intervals a total amount of capacity required to service the first type of terminals; (b) subtracting the determined amount from a current maximum capacity; and (c) allocating all or some of the remaining capacity, if any, to one or more of the second type of terminals.

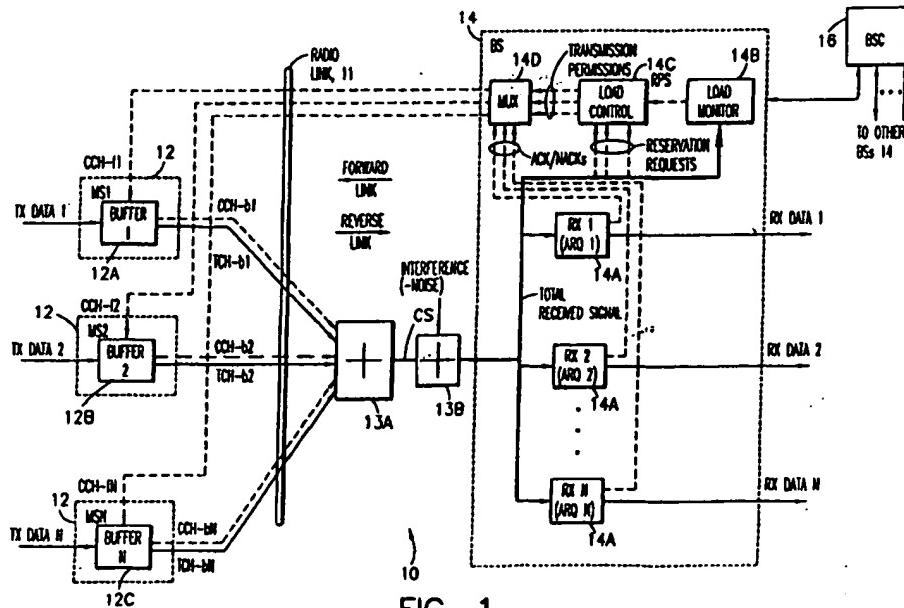


FIG. 1



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 7132

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.)
X	<p>WEN-BIN YANG ET AL: "ADMISSION POLICIES FOR INTEGRATED VOICE AND DATA TRAFFIC IN CDMA PACKET RADIO NETWORKS" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol. 12, no. 4, 1 May 1994 (1994-05-01), pages 654-664, XP000588842 ISSN: 0733-8716            * column 4, line 40 - column 7, line 23 *            * column 11, line 6 - line 19 *            * column 15, line 6 - line 32 *            * figure 2 *            ---</p>	1,2,4,5, 8,17,20, 31,32	H04Q7/38 H04L12/64
X	<p>NAGHSHINEH M ET AL: "QOS PROVISIONING IN MICRO-CELLULAR NETWORKS SUPPORTING MULTIPLE CLASSES OF TRAFFIC" WIRELESS NETWORKS, vol. 2, no. 3, 1 August 1996 (1996-08-01), pages 195-203, XP000625338 ISSN: 1022-0038            * column 2, line 14 - column 3, line 27 *            * column 5, line 34 - column 6, line 29 *            * column 9, line 36, paragraph 42 *            * column 16, line 10 - column 17, line 2 *            ---</p>	1-3,5, 11,17, 18,20,25	TECHNICAL FIELDS SEARCHED (Int.Cl.)
A	<p>OLIVEIRA C ET AL: "QUALITY-OF-SERVICE GUARANTEE IN HIGH-SPEED MULTIMEDIA WIRELESS NETWORKS" 1996 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS (ICC), CONVERGING TECHNOLOGIES FOR TOMORROW'S APPLICATIONS DALLAS, JUNE 23 - 27, 1996, vol. 2, 23 June 1996 (1996-06-23), pages 728-734, XP000625871 INSTITUTE OF ELECTRICAL &amp; ELECTRONICS ENGINEERS ISBN: 0-7803-3251-2            * column 1, line 35 - column 3, line 53 *            * column 6, line 42 - line 57 *            ---            -/-</p>	1-3,5,6, 8,16-18, 20,21,29	H04L H04Q
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		12 October 1999	Pecci, R
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document			



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 7132

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.)
A	EP 0 587 980 A (ROKE MANOR RESEARCH) 23 March 1994 (1994-03-23) * page 10, line 4 - line 19 * * page 12, line 25 - page 15, line 3 * -----		
A	WO 95 35637 A (NOKIA MOBILE PHONES LTD ; NOKIA TELECOMMUNICATIONS OY (FI); GLISIC) 28 December 1995 (1995-12-28) * page 12, line 25 - page 15, line 3 * * claims 1,7-10 * -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.)
The present search report has been drawn up for all claims			
Place of search	Date of compilation of the search	Examiner	
THE HAGUE	12 October 1999	Pecci, R	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : Interim document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 97 30 7132

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-10-1999

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0587980	A	23-03-1994		GB 2270815 A FI 934088 A		23-03-1994 19-03-1994
WO 9535637	A	28-12-1995		FI 942961 A AU 695305 B AU 2739795 A CN 1130972 A EP 0717913 A JP 9505197 T NO 960657 A US 5754541 A		21-12-1995 13-08-1998 15-01-1996 11-09-1996 26-06-1996 20-05-1997 19-04-1996 19-05-1998